

Yorks
COMBINED DISTRICT COUNCILS,

GUISBOROUGH UNION.

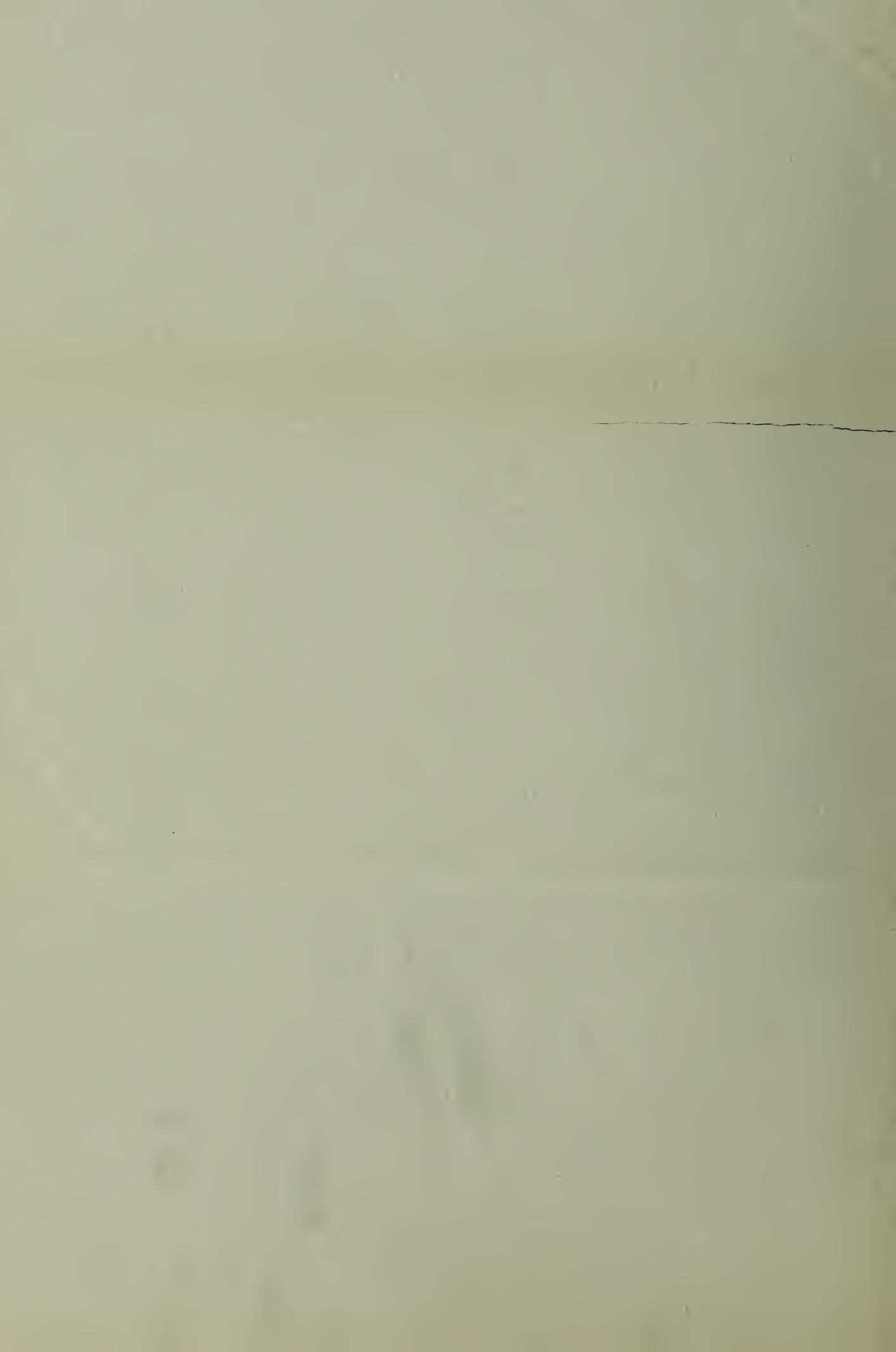
R E P O R T

FOR THE YEAR 1897

OF THE

MEDICAL OFFICER OF HEALTH,

W. W. STAINTHORPE, M.D., C.M., D.P.H



TO THE CHAIRMEN AND MEMBERS

OF

THE GUISBOROUGH RURAL DISTRICT COUNCIL

„	GUISBOROUGH URBAN	„	„
„	KIRKLEATHAM	„	„
„	LOFTUS	„	„
„	REDCAR	„	„
„	SALTBURN-BY-THE-SEA	„	„
„	SKELTON & BROTTON	„	„

GENTLEMEN,

I have pleasure in submitting for your consideration my Report for the year ending December 31st, 1897.

Infectious Diseases.

The number of cases of infectious diseases notified during the year was 367 (303 in 1896). Table A shows the number of each in the several Districts.

Scarlet Fever.

The number of cases of scarlet fever notified during the year was 283, being 70 more than in the previous year. More than three-fifths of the total number occurred in the Loftus District. This District escaped the disease to a great extent in those years in which it was epidemic in the surrounding Districts. In my last annual report I drew attention to the fact that the attack rate during the triennium—1893, 1894, 1895—had been in the Skelton & Brotton District 63 per 1000 of the population, whereas during the same period it had only been 16 in the Loftus. In other words the number of persons rendered insusceptible (by attack) in the Skelton & Brotton District (and in the Guisborough Urban also) during this triennium was much greater than in the Loftus, with the consequence that when the disease gained a footing there, it became epidemic. There is no doubt that one of the chief factors in the dissemination was its mildness of type. One fact in connection with this fever in Loftus I am unable to account for. The epidemic attained its maximum in the middle of the year, in August the number of cases reported was 20, in September only three were notified, none since. This sudden cessation of the outbreak is remarkable and unaccountable. I have nothing to add to what has been said in my previous reports as to the chief channels by which this fever is spread. There were no circumstances connected with the occurrence of any of the cases or group of cases to lead me to believe that the disease had been disseminated in any special way.

There is one point however, applicable generally to the infectious diseases of children which may fittingly be touched upon here. Twice during the year it has been necessary to close schools because of the existence of infectious disease (scarlet fever in one case diphtheria in the other) in the school-house,—the house attached to the school occupied by the teacher. Whenever school authorities think it desirable to provide houses for teachers they should seriously consider the desirability of having these completely detached and away from the schools. The outbreak of infectious disease in such a detached house need not necessarily be followed by closure of the school as it will often be found that steps can be taken for the teacher to go into rooms until the patient has been removed for isolation or has recovered. In a third instance, the closure of the school was rendered unnecessary, the patient (the Mistress herself) being at once removed for isolation.

Three deaths resulted from scarlet fever, this being 1·06 per cent. of the persons attacked.

Diphtheria.

There was a slight decrease in the number of cases of diphtheria notified, viz. 14—compared with 18 in 1896. Seven occurred in the Skelton & Brotton District, five in the Loftus, and one each in the Kirkleatham and Redcar Districts. One case ended fatally. It is somewhat remarkable that in only one instance was the occurrence of the disease in a house followed by a second in the same house, notwithstanding the fact that none of the cases were isolated. In only two cases could I trace any connecting link between their occurrence and insanitary conditions. In both it is probable that the conveyance of night soil (from Middlesbro') in open carts during the day through the village where the patients resided was a factor in their causation if not *the* cause. The two cases in one house occurred in the family of a school-master whose house adjoined and had direct communication with the school. On receipt of the notification of the first case steps were at once taken to have the school closed, the managers being informed that it would have to remain closed till the patient was removed for isolation or such other steps were taken as would effectually prevent the spread of the disease to the scholars. The second case was reported a few days after the first. A fortnight after the notification of the first case I received a note from the medical attendant certifying that the patients were free from infection, and that the premises had been disinfected. The school was thereupon re-opened; the disease did not spread.

Only two cases of membranous croup were reported, both fatal—one being in the Skelton & Brotton District, the other in the Loftus.

Measles.

Measles claimed 22 victims; this large number no doubt was due to the fact that the time of its greatest prevalence was the early part of the year—January and February—when lung complications were more likely to ensue. Twenty of the deaths occurred in the first three months of the year. A sharp outbreak at Brotton rendered it necessary to close the schools for 6 weeks. More than half of the fatal cases occurred in this place. In previous reports I have shown how difficult it is to cope successfully with this complaint, which will continue to claim its victims until the public regard it as more serious than they do. During the years 1891 to 1897 inclusive, it caused nearly twice the deaths that scarlet fever did, viz. 60—those from scarlet fever being 35.

I am of opinion that school influence is a prominent factor in its dissemination. If, however school closure is to be of much service it must be carried out early.

Diarrhoea.

The number of deaths from diarrhoea varies considerably from year to year. During the past year 20 were registered. In 1896, the number was 4; in 1895, 18; in 1894, 2; and in 1893, 38. To what is this great variation due? Research shows that in the superficial layers of the soil there reside organisms which under certain conditions elaborate a chemical poison, and that it is this poison which is the material cause of diarrhoea. The conditions essential to the growth of these organisms and formation of the poison are chiefly those of season and the presence of dead organic matter. The seasonal influences are heat and moisture, hence, the greater prevalence of diarrhoea in summer. Dead organic matter forms a suitable nidus for the growth and propagation of the organisms; probably, but for the presence of this, they would lose the power of producing the poison. Possibly it is only when the soil is saturated with organic matter, that is, contains more than can be disposed of in the ordinary processes of nature, that the organisms can exist. Dead organic matter we always have with us, but it is only when it becomes dirt—"matter in the wrong place"—that it is disease producing. And it is certainly in the wrong place when it is allowed to permeate the soil in and around dwellings where it can not be even partially disposed of by conversion into plant life. With variation in seasonal influence there follows variation in the number of cases.

There is little doubt that one of the principal ways in which the organisms gain access to the body is through food, chiefly milk.—Unfortunately in too many instances the place where milk is stored—the pantry—is the worst constructed and worst planned part of a building. In some houses the space under the stairs is considered good enough for the purpose. In the majority of cottages in this district the pantry is a small low building projecting into the yard,

the floors (bricks laid on the soil), walls, and roofs of which are in many cases so badly constructed that they are seldom or never dry. Frequently the windows of these pantries are only a few feet from the ashpit or pan closet. Matters are sometimes made still worse by the placing of the water tap in the pantry without any provision for the carrying off of the drippings therefrom.

It will be seen then that diarrhoea is largely preventible. Though the seasonal conditions which favor the propagation and dissemination of the organisms cannot be controlled, yet, very much may be done to rob the organisms of that which is necessary for their growth if not for their very existence by the speedy removal of house refuse and filth of all kinds.

Enteric Fever.

Thirty-two cases of enteric fever were reported during the year, one less than in 1896 and thirty less than in 1895. Thirteen of the cases occurred in the Skelton & Brotton District, eight in the Kirkleatham, five in the Redcar, three in the Guisbro' Urban, two in the Loftus, and one in the Saltburn. Of those in the Skelton & Brotton District three occurred in one house and two in another. There is little doubt that in both houses the later cases were secondary. The first case in the family in which three occurred appeared to have some connection with the emanation from a sewer manhole at the rear of the house: subsequently a solid cover was placed on this manhole. Of those in the Kirkleatham District it is more than probable two were contracted out of it: two occurred in one house, the second being reported a month after the first. Two of the five in the Redcar District were also in one house, the second being notified nearly six weeks after the first: a case reported early in the year was contracted from an imported case in an adjoining house which occurred at the end of the previous year. In the larger number of cases I was unable to arrive at any definite conclusion as to their origin.

Whatever opinion may be held as to the life history of the organism which is the active cause of enteric fever, whether it exists only in a disease-producing state, or whether it is an organism which is ever present, becoming disease producing under conditions of environment, it is quite certain that the majority of cases of this fever—if not all—are due to infection from a previous case though it may not be possible to trace the connection. Cases so mild may occur as to defy detection. Probably in no infectious disease do the early symptoms vary so much both in character and in intensity as in enteric fever and they may be so indefinite as to prevent a correct diagnosis being arrived at for some time. *Epidemics* of the disease are generally traceable to specific contamination of water supplies, lesser epidemics to specific contamination of milk. It is the sporadic cases which are so difficult to trace. Some may result from mild, hence unrecognised cases. Experience has led me to believe that the specific microbes of this fever may remain dormant for a considerable time springing into activity again and being disseminated at the first favorable opportunity. In my annual reports for the years 1895 and 1896 particulars of cases which justify this opinion are given,—the recurrence of the disease in cottages after a considerable lapse of time, cottages similar in every respect to those in the same rows as themselves, having the same water supply, the same drainage, the same form of drain traps, the same system of closet and of scavenging. In two instances these houses had changed tenants between the occurrence and recurrence of the fever. This opinion is confirmed by experiments recently carried out by the Medical Department of the Local Government Board which prove that in a soil containing a large quantity of organic matter the retention of vitality and the power of spreading abroad of the typhoid bacillus have been maintained at varying temperatures for no less than nine months.

So soon as a case of enteric fever is reported steps are at once taken to provide for the separate collection and subsequent destruction of the patient's excreta. But some time may elapse before the case is diagnosed, hence the excreta are placed in the ordinary closet and ash-pit where such are in use. Closets and pits may act in various ways as foci for the dissemination of the fever. A person using the infected closet may contract the disease. During scavenging the specific organisms may be wafted through the air and inhaled by persons living in the locality or may be deposited on milk or on other food in houses near. The double handling of nightsoil from ordinary pits increases this risk, first the throwing of it out on to the back street, second its subsequent transference to the scavenger's cart. The danger is still further enhanced when the back street is not covered with impervious material, for in such case the organisms find in

the filth-sodden soil suitable conditions for growth, and here the organisms may remain dormant springing into activity and becoming disseminated weeks and months afterwards. I do not think that sewer gas is so frequently the channel by which enteric fever is conveyed from case to case as is generally believed, though it may be a factor in its causation by rendering the person exposed to its effects more susceptible to attack. Experiments have proved that the vapour of water from sewage does not carry off microbes contained in the sewage. Solid matter containing the specific organisms may be deposited on the sides of the sewer, and if owing to a shortened water supply or other cause this deposit becomes dry, the organisms may be carried therefrom by currents of air passing along the sewer and being discharged through open manholes or other untrapped openings in the sewer.

Statistics.

The population is estimated to have increased by 2340, the natural increase by excess of births over deaths being 658 (656 in 1896). The largest increase is in the Skelton & Brotton District the population being estimated at 13,260 compared with 12,000 in the previous year. This estimate was arrived at by obtaining from the Rate Collector the number of occupied houses and multiplying this by the number of persons per house as shown at the last census (1891). It is possible that the number of occupants per house may be lower now than then, though I do not think this is so. No change in the conditions affecting the number of persons per house has taken place, at least none which would tend to lower the number. Were it not that in that District there have been for many years a number of unoccupied houses the somewhat rapid immigration of families during the last 18 months or so owing to improvement in the industry of the District, would have resulted in increasing the number of occupants per house. The population in the Loftus District is estimated as being increased by 650, and in the Guisbro' Urban by 300 : both estimates being based on the number of occupied houses.

The births registered during the year numbered 1290 (669 males, 621 females) an increase of 14 over those in the previous year, giving a birth rate of 29.73 per 1000 of the population. The deaths numbered 632 (339 males, 293 females) 12 more than in 1896 : death rate 14.36. The deaths from zymotic diseases, diarrhoea included, numbered 77 (48 in 1896), this being at the rate of 1.72 per 1000 of the population. There were 11 more deaths from measles, 10 from whooping cough, and 16 from diarrhoea than in the previous year. Particulars of the birth rates, death rates, &c., in the several Districts are shown in table B. In table C will be found the number of deaths from each of the infectious diseases in the same Districts.

The almost entire absence of puerperal fever is worthy of note ; only three cases of this disease have been notified during the past five years. There was a slight increase in the number of deaths in children under five years of age, accounted for in great measure by the larger number of deaths from measles, whooping cough, and diarrhoea.

Inspections.

Inspections of the various parts of each District have been made by me from time to time, frequently from house to house. Particulars of matters noted requiring attention were laid before the respective Councils either in my own monthly reports or by entry in the Inspector's books. A frequent item was "defective yard pavement." In too many instances the defect is remedied (?) by the relaying of the yard, or a portion of it, with ordinary bricks grouted with sand. In a few months or even a few weeks the nuisance recurs, stop water percolating between the bricks into the soil which thus becomes saturated with filth. In wet weather when the bricks are trod upon, liquid filth is ejected from between the bricks. It would be well to deal with these—as recurring nuisances—under section 95 of the Public Health Act, 1875.

Every house infected by diphtheria, membranous croup, or enteric fever, and nearly every house infected by scarlet fever was visited by myself.

Table D contains particulars, supplied by the Inspectors, of the number and nature of nuisances abated, &c., during the year. This table does not include many insanitary conditions remedied as the result of direct communication between myself (or the Inspectors) and the owners or agents of property.

Housing of the Working Classes Act.

Five cottages were reported by me under this Act as being unfit for habitation. In each instance steps were taken by the owners to carry out the necessary repairs.

Overcrowding.

The number of cases of overcrowding which came under observation was larger than usual probably owing to a revival of the trade of the District. It was necessary to take legal proceedings in several instances to enforce the law.

Water Supplies.

The continuous care which is required to prevent the specific pollution of water either at its source or in the course of its distribution has been painfully illustrated by the epidemics of typhoid fever in different parts of the country during the last few years. Quoting from a circular recently issued by the Local Government Board,—“ This disease, which formerly prevailed somewhat generally in epidemic form, has during the last twenty-five years been largely reduced as a cause of death; but, on the other hand, there is now a recurring tendency to sudden localised epidemics, in which the typhoid infection is distributed to large populations by means of the contamination of water delivered from public works of water supply.” In advising as to the fitness or otherwise of a water for domestic purposes, I have always urged the necessity of ascertaining whether or not it was open to contamination—this being quite as important as a knowledge of its fitness as shown by chemical analysis. The word pure as applied to water is used in a comparative sense, not in the absolute. In nature, pure water, that is water consisting simply and solely of the elements hydrogen and oxygen chemically combined does not exist. In its passage through the air and over or through soil it dissolves and takes up more or less of the matter therein. A water is impure when this matter is of such a nature or in such quantity as to be injurious. A water may however contain matter of such a nature or in such a quantity as in itself to be innocuous, yet the water may be unsafe to use as the nature or quantity of the matter may show pollution by sewage matter. Such a water may be used for an indefinite time without giving rise to disease other perhaps than gastro-intestinal complaints. Should however the excreta from a case of typhoid gain access to the water through the sewage then a “ sudden localised epidemic ” results, the extent depending of course upon the area supplied with the water. Of two waters, one shown by analysis to be of a high degree of purity the other of a lower degree, the latter may be the safer to use, as the former may be open to specific contamination, the latter not. The very fact that the former is a pure water may produce such a sense of security that the possibility of specific contamination is overlooked or even pooh-poohed, whilst the knowledge that the latter is of lesser purity leads to constant care being exercised to maintain as high a degree of purity as circumstances will permit. To trust to a chemical analysis alone then may be to lean on a broken reed. Nor is there any standard of analysis of which it can be said—on this side is purity and safety—on that impurity and danger.

More than half the houses in the districts embraced in the Guisborough Union are supplied with water by the Cleveland Water Co. This water, partly surface partly spring, is of a high degree of purity; nor is it open to contamination by sewage or similar matter as there is not an inhabited house within the area of its gathering ground.

Table E gives particulars of the water supplies in the several Districts. It will afford satisfaction to the Councils to know that nearly all the waters are of excellent quality. Of over 50 waters analysed by me in only four could nitrites be detected and in these only a trace. The presence of nitrites is taken as indicating recent sewage pollution.

TABLE A.

Number of Cases of Infectious Diseases notified during the year in each of the districts.

	Gisbro' Rural.	Gisbro' Urban.	Kirkleatham Urban.	Loftus Urban.	Redcar Urban.	Saltbn. Urban.	Skelton and Brotton Urban	TOTALS.
Scarlet Fever	15	19	19	181	15	10	24	283
Diphtheria	0	0	1	5	1	0	7	14
Membranous Croup	0	0	0	1	0	0	1	2
Enteric Fever	0	3	8	2	5	1	13	32
Continued Fever	0	0	0	0	0	0	0	0
Puerperal Fever	0	0	0	0	0	0	1	1
Erysipelas	5	7	3	6	0	2	12	35
TOTALS	20	29	31	195	21	13	58	367

TABLE D.

Number and Nature of Nuisances abated, &c.,

	Guisboro' Rural.	Guisboro' Urban.	Kirkleatham Urban.	Loftus Urban.	Redcar Urban.	Saltburn Urban	Skelton and Brotton Urban.
House yards re-laid or repaired.....	28	11	26	4	6	13	68
Drains or Drain Traps ditto	17	13	70	5	11	+	9
Pails and W.C.'s substituted for ordinary closets)	22	17	1	0	4	0	13
Closets, Ashpits, &c., repaired	15	9	0	1	5	24	12
Other defects remedied) or nuisances abated...)	12	22	30	11	15	23	46
Rooms disinfected.....	10	20	43	151	11	3	34
TOTALS.....	104	92	170	172	52	67	182

TABLE B.
Birth and Death Rates, and the Mortality at different age periods in the several districts.

	Guisbro' Rural	Guisbro' Urban.	Kirk-leatham Urban.	Loftus Urban.	Redcar Urban.	Saltburn Urban	Skelton & Brotton Urban.	Totals & Means.	
Population	7130	6000	4550	7250	3250	2550	13,260	43,990	
Number of Births... M. 120 F. 97	M. 86 F. 100	M. 52 F. 48	M. 121 F. 119	M. 40 F. 29	M. 23 F. 23	M. 227 F. 205	M. 669 F. 621		
	217	186	100	240	69	46	432	1290	
Birth Rate	30.43	31.00	21.97	33.10	21.23	18.0	32.57	29.73	
Number of Deaths... M. 50 F. 49	M. 40 F. 47	M. 31 F. 29	M. 61 F. 41	M. 27 F. 22	M. 10 F. 14	M. 120 F. 91	M. 339 F. 293		
	99	87	60	102	49	24	211	632	
Death Rate	13.88	14.50	13.18	14.06	15.07	9.41	15.90	14.36	
Zymotic Death Rate (including Diarrhoea)	1.12	1.66	0.65	1.93	1.23	0.39	2.71	1.72	
Proportion of Deaths in children under 1 year of age to each 100 births.	11.05	16.12	13.00	16.25	21.73	13.04	19.44	16.35	
Proportion of Deaths in children under 5 years of age to each 100 deaths.	31.31	44.82	25.00	53.92	42.87	29.17	49.76	43.19	
Mortality at subjoined age periods :	Under 1 year of age	24	30	13	39	15	6	84	211
	Over 1 & under 5	7	9	2	16	6	1	21	62
	Over 5 & under 15	2	4	3	5	1	0	13	28
	Over 15 & under 25	8	5	4	7	2	0	7	33
	Over 25 & under 65	28	18	16	23	10	8	56	159
	65 and over	30	21	22	12	15	9	30	139

TABLE C.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.										
										TOTAL..
Guisborough Rural	Under 5	5 and upwards ...							Scarlatina.	
Guisborough Urban	Under 5	5 and upwards ...						Diphtheria.		
Kirkleatham ,	Under 5	5 and upwards ...						Membranous Croup		
Loftus ,	Under 5	5 and upwards ...	1					Enteric or Typhoid Fever.		
Redcar ,	Under 5	5 and upwards ...	1					Erysipelas.		
Saltburn ,	Under 5	5 and upwards ...						Measles.		
Skelton and Brotton	Under 5	5 and upwards ...						Whooping Cough.		
Totals...	Under 5	5 and upwards ...	1 2	1 1	1 4	18 4	22 1	16 4	2 3 56 38 1 30	20 31 68 21 39 30 11 29 15 45 37 55 47 12 21 15 13 7 17 13 49 52 153 198 273 359

To the Chairman and Members
OF THE
Guisborough Rural District Council.

GENTLEMEN,

By Table A it will be seen that the number of cases of infectious disease notified during the year was comparatively small. Of the 20 cases reported, 15 were scarlet fever and five erysipelas. Nine of those of scarlet fever occurred at Lazenby (in 6 houses), two at Grinkle, and one each at Marske, New Marske, Lackenby, and Upsall Cottages. The district was entirely free from diphtheria, membranous croup, and enteric fever.

The number of births registered was 217 (120 males, 97 females), birth rate 30·43. The deaths numbered 99 (50 males, 49 females)—15 less than in the previous year; death rate 13·88. In the Marske and Upleatham registration districts the birth and death rates were respectively 29·77 and 13·86. In the area comprised in the Danby, Guisborough, and Loftus registration districts the birth rate was 31·50, the death rate 13·92. The deaths from infectious disease were—erysipelas 1, measles 1, whooping cough 2, diarrhoea 4—equal to a rate of 1·12 per 1000 of the population. The proportion of deaths in children under 5 years of age to each 100 deaths was lower than in 1896, and so was the proportion of deaths in infants under one year to each 100 births. The various rates are given in Table B.

Inspections of the various parts of the district have been made from time to time and reported upon to the Council at its monthly meetings. Table D shows the number and nature of the various insanitary conditions remedied during the year.

Owing to circumstances beyond the control of the Council there has been considerable delay in procuring an increased water supply for the village of Newton. I understand that the necessary arrangements for this increase will be completed at an early date. An agreement has been entered into between the Council and the Hinderwell Council for a supply of water to the cottages at Cowber and steps are now being taken for the laying down of the pipes.

At the end of the year I reported several cases of overcrowding: the Council instructed the Clerk to take legal proceedings to have the same abated.

Two cottages were reported by me under the Housing of the Working Classes Act as unfit for habitation: the necessary repairs were carried out.

The district is still without accommodation for the isolation of patients suffering from infectious disease. In my annual report for the year 1890 I suggested that the County Council should map out Isolation Hospital areas. Practically, the Isolation Hospitals Act of 1893 gives powers to the County Council to do this. It certainly gives the Council power to cause enquiries to be made as to the necessity of such Hospitals being provided, which it is very desirable should be done.

I am, gentlemen,

Yours obediently,

Saltburn-by-the-Sea.

W. W. STAINTHORPE.

Feb. 15th, 1898.

To the Chairman and Members
OF THE
Guisborough Urban District Council.

GENTLEMEN,

During the year 29 cases of infectious disease were notified, viz.:—19 of scarlet fever (in 14 houses), 3 of enteric fever (in one house), and 7 of erysipelas four of which occurred in the workhouse. The District was entirely free from diphtheria and membranous croup. Of the total number of cases of scarlet fever 17 were reported during the last quarter of the year. Particulars of the three cases of enteric fever are given in the first part of this report.

The births registered during the year numbered 186 (86 males, 100 females); birth rate 31·00. Excluding deaths in the workhouse among persons not belonging the District the deaths registered numbered 87 (40 males, 47 females); death rate 14·50. The deaths from infectious disease were :—enteric fever 2, whooping cough 5, diarrhoea 3, equal to a rate of 1·66 per 1000 of the population. There was a somewhat large increase in the number of deaths in infants, 30, compared with 20 in 1896.

Inspections of the District have been made from time to time, generally in company with the Inspector and often from house to house. The result of these inspections were reported upon to the Council at its meetings. The number and nature of the nuisances abated during the year are given in Table D. The slaughter-houses, common lodging-houses, and bake-houses were also inspected. Nothing was noted in connection with the scavenging calling for special remark. The sewers were flushed as occasion required. Some cases of overcrowding were reported; the Council ordered the necessary notices to be served; these were complied with. Two cottages were condemned as unfit for habitation under the Housing of the Working Classes Act: these were repaired.

A number of the farm-houses in the District were inspected by me. The water supply of two of these was, after analysis, condemned: in both, steps are being taken for the provision of a proper supply. Several minor sanitary defects were noted during these inspections and reported: the Council took steps to have the same remedied. The remainder of the farms will be visited.

Nothing has as yet been done towards the provision of accommodation for the isolation of cases of infectious disease, nor has the Council adopted regulations as to the drainage, ventilation, &c., of cowsheds and dairies.

I am, gentlemen,

Saltburn-by-the-Sea,

Feb. 11th, 1898.

Yours obediently,

W. W. STAINTHORPE.

To the Chairman and Members
OF THE
Kirkleatham Urban District Council.

GENTLEMEN,

As will be seen from Table A, the number of cases of infectious diseases notified during the year was 31, being 26 less than in 1896. Of these, 19 were scarlet fever, eight enteric fever, one diphtheria, and three erysipelas. Of the cases of scarlet fever ten occurred at Yearby in six houses, six in Coatham in five houses, two at Warrenby in separate houses, and one at Kirkleatham : three were notified in January, ten in February, one in March, two in April, one in June, and two in August. Of the ten reported in February, nine occurred at Yearby, the tenth at Kirkleatham : this outbreak was evidently the result of the attendance at school of some child in an infectious condition. The facts are as follows :—a case was reported at Kirkleatham on February 4th, on the 7th a case at Yearby. Suspecting that these resulted from some child attending school in an infectious state, I visited Yearby on the day the second notification was received. There I found that in addition to the cases reported several children in another house were down with the fever; these (up to the time of my visit) had not been seen by any medical man. On going to the school to make further enquiries it was ascertained that a daughter of the Head Mistress (living in the house attached to the school) was ailing. As a medical man had just been sent for I awaited his arrival and was informed by him that the case was one of scarlet fever, whereupon I advised the immediate closure of the school. Several of the infected children were removed to the Sanatorium. The condition of the Teacher's child did not permit of her removal till the following week. Two cases were reported after the closure of the school. So soon as the Teacher's child was removed the school and school-house were disinfected and the school re-opened. At the re-opening I questioned each scholar before admission as to present or recent illness of any member of the household, with the result that several children were requested to return home. Further enquiries at the homes of these—made the same day—enabled me to allow all but two (from one house) to return to school. Only two cases occurred subsequently, one five weeks later, the second nine weeks. Of the eight cases of enteric fever one was reported in January, one in May, two in August, two in September, and one each in October and November. With the exception of two in one house, the second being notified a month after the first, no connection could be traced between any two cases. In two instances the facts elicited concerning them pointed to the strong probability that infection had been contracted out of the District. Of the eight cases of this fever three occurred in Warrenby (in two houses) the remainder in Coatham. Only one case of diphtheria was reported during the year (at Warrenby) the patient being a child three years of age.

Seven cases of scarlet fever were removed to the Sanatorium for isolation : in addition to these, two patients, both suffering from scarlet fever, were admitted from outside the District, one from Marske the other from Redcar. The deaths from infectious disease were, scarlet fever one, enteric fever one, whooping cough one.

The births during the year numbered 100 (52 males, 48 females), 20 less than in 1896 ; birth rate 21·97. Sixty deaths were registered (31 males, 29 females), 4 less than in 1896 ; death rate 13·18. The zymotic death rate, including diarrhoea, was 2·65 per 1000 of the population. Particulars of the various rates and of the mortality at certain age periods are stated in Table B.

Inspections have been made of the district from time to time and reported upon to the Council at its monthly meetings. The number and nature of insanitary conditions remedied during the year will be found in Table E. The slaughter-houses, bake-houses, and cow-sheds were also inspected.

The sewers continue to be systematically flushed with sea water. A complaint was made to me that certain back streets were not efficiently cleansed after the scavenging of privy pits. So far as I could gather from a personal inspection made shortly after some of these pits had been emptied there did not seem any ground for complaint so far at least as the cleansing of the back street was concerned. Under the best conditions the cleansing of these pits must give rise to more or less offence, the contents having to be thrown on to the back street before being carted away. I trust and believe that the time is not far distant when this form of excrement receptacle will be completely abolished. That condition best expressed in the words "a sound mind in a sound body" can never be obtained, much less maintained, so long as impurity exists. Experience and research more and more enforce the truth of the saying that dirt and disease are synonymous.

I am, Gentlemen,

Yours obediently,

W. W. STAINTHORPE.

To the Members of the
Kirkleatham Urban District Council.

To the Chairman and Members
OF THE
Loftus Urban District Council.

GENTLEMEN,

A considerable increase in the number of cases of infectious diseases notified, compared with the previous year, is to be noted. This increase resulted from the epidemic of scarlet fever which began in February. During January 3 cases were reported, in February 27, in March 19, in April 30, in May 23, in June 32, in July 24, in August 20, and in September 3. These were distributed throughout the District as follows:—

At Loftus,	72, in 53 houses
„ Skinningrove,	57, in 33 „
„ Liverton Mines	41, in 22 „
„ Carlinhow	3, in 3 „
in the Rural part of the District,	8, in 5 „
	<hr/>
	181 ... 116

The majority of the cases were of a mild type: this no doubt was one of the chief factors in the spread of the disease, it being very difficult to impress upon householders the necessity of taking as much care against the spread of infection as in severe cases. Five cases of diphtheria were notified, two in May, and one each in July, September, and October. There is some reason to believe that two of the cases were connected with the carting of night soil from Middlesbro' through the village—Liverton Mines—where the cases occurred. One case of membranous croup was reported (in April). Only two cases of enteric fever were notified, both in October: one there is little doubt was imported; this patient was removed to the Sanatorium. The facts connected with the second case were such that I did not feel justified in recommending the removal of the patient.

There was an increase in the number of births registered, 240 (121 males, 119 females), the number in the previous year being 210 which was 30 in excess of that in 1895; birth rate 33·10. The deaths numbered 102 (61 males, 41 females), 7 more than in 1896: death rate 14·06. The deaths from infectious diseases (particulars of which are given in Table C) were at the rate of 1·93 per 1000 of the population. The number of deaths in children under five years of age was large, being 55—39 of these being in infants under one year.

Inspections of the District have been made by me from time to time, sometimes in company with the Inspector and often from house to house. Matters noted requiring attention were laid before the Council at its monthly meetings. The slaughter-houses, common lodging-houses, and bake-houses were also inspected. Table D shows the number and nature of the nuisances abated during the year.

A new sewer has been constructed at Skinningrove by which sewage is now carried direct to the sea instead of being discharged into the beck.

I called attention to the nuisance caused by the unloading of night soil near the passenger station at Loftus. The Railway Company were communicated with and requested to take steps to prevent its recurrence.

Two cases were removed to the sanatorium, one of enteric fever and one of scarlet fever, the latter from a common lodging-house.

Nothing was noted connected with the scavenging calling for special remark.

A number of waters were analysed by me: particulars of these are given in Table E.

I am, gentlemen,

Saltburn-by-the-Sea,

Feb. 11th, 1898.

Yours obediently,

W. W. STAINTHORPE.

To the Chairman and Members
OF THE
Redcar Urban District Council.

GENTLEMEN,

The cases of infectious disease notified during the year numbered 21 (30 in 1896). Fifteen of these were scarlet fever, one diphtheria, and five enteric fever. Of the 15 of scarlet fever (in eleven houses) four occurred in January, two in February, four in March, two in June, and one each in August, September, and October. No case of membranous croup was reported. Two of the five cases of enteric fever occurred in one house, the second at such time after the first (6 weeks) as to show that the disease was contracted from the first. In one instance the infection was contracted from an imported case which occurred at the end of 1896. The source of infection in the remaining cases I could not trace.

The births numbered 69 (40 males, 29 females), two less than in 1896; birth rate 21.23. The deaths numbered 49 (27 males, 22 females), five less than in 1896; death rate 15.07. Twenty-one deaths occurred in children under five years of age, fifteen in persons over 65. Three deaths resulted from whooping cough. The zymotic death rate (including diarrhoea) was 1.23 per 1000 of the population. Particulars of the various mortality and other rates will be found in Table B.

Inspections of the District have been made from time to time and reported upon to the Council at its monthly meetings. A few cases of overcrowding came under notice in one of which it was necessary to take legal proceedings to enforce the law. One house was condemned as unfit for habitation; a notice served on the owner to repair it was complied with. I again found it necessary to call the attention of the Council to the unsatisfactory way in which the scavenging was being carried out: the Contractor was communicated with and warned that unless an improvement in this respect took place the terms of the contract would be enforced. At a subsequent meeting I was able to report an improvement. So far as could be ascertained from an inspection of the manholes the sewers were found to be in good working order. In many of the channels at the bottom of these manholes there was no deposit, in others the amount was small. This is satisfactory especially having regard to the low gradient of the sewers. There is a tendency under certain conditions for the sewage at its outlet into the sea to accumulate in pools between the rocks at low water. This is a matter requiring the attention of the Council.

Nothing in connection with the bake-houses, slaughter-houses, dairies, and cow-sheds, which were inspected, was noted calling special remark.

The provision of efficient accommodation for the isolation of infectious cases it is to be hoped will have early consideration when the County Council's order for the amalgamation of the Districts of Redcar and Kirkleatham, comes into force.

I am, gentlemen,

Saltburn-by-the-Sea,

Feb. 7th, 1898.

Yours obediently,

W. W. STAINTHORPE

To the Chairman and Members
OF THE
Saltburn-by-the-Sea Urban District Council.

GENTLEMEN,

As will be seen by Table A the number of cases of infectious disease notified during the year was 13 viz.—ten of scarlet fever (in 9 houses), one of enteric fever, and two of erysipelas. Of the cases of scarlet fever one occurred in January, three in February, three in April, two in June, and one in August. So far as I could ascertain there was no connection between any of these cases. In one instance there is little doubt that the disease was contracted out of the district, in another (where two members of the family were attacked simultaneously) the infection was evidently imported from a neighbouring district by a girl help living in a house where there had recently been a case of the fever. The single case of enteric fever occurred in January, the patient being a child 12 years of age; how it originated I was unable to ascertain. Towards the end of the year whooping cough prevailed to some extent causing one death—the only death from infectious disease.

The population is estimated at 2550 which I believe to be under rather than over the actual number. An equal number of males and females was born during the year—23 of each, birth rate 18·0; the deaths deducting those of visitors (5) numbered 24 (10 males, 14 females) equal to a death rate of 9·41 per 1000 of the population. Particulars of the birth rate, death rate, and the mortality at certain age periods will be found in Table B.

Inspections of the district have been made from time, generally in company with the Inspector. The number and nature of nuisances abated during the year are given in Table D. The slaughter-houses, bake-houses, cowsheds, and dairies were also inspected.

The sewers were, as in past years, systematically flushed. The work of enlarging a portion of the main sewer, &c., to prevent flooding of cellars after excessive rainfall during thunderstorms has been begun. To drain a cellar into a sewer is objectionable, as apart from the danger of flooding during heavy rains there is the probability that in dry weather the water in the trap evaporates to such an extent as to unseal it and so permit sewer gas to escape into the house. All the man-holes are now covered with solid tops. One complaint was made to me that a nuisance was caused by the discharge of sewer gas from a manhole; I however satisfied myself that the effluvium did not proceed from the sewer either through the man-hole or the surface water gully near, but that it arose from slag chippings on the road; these as is well known give off a sulphuretted hydrogen for a long time after they are laid down especially during and after rain.

It has been decided to test the condition of the whole of the house drains in the district—this work is being proceeded with as quickly as the various duties of the Surveyor permit of.

During the summer months kitchen and other refuse was removed daily from such houses as were provided with receptacles necessary for the purpose. The ordinary scavenging was carried out in a fairly satisfactory manner.

I would remind the Council that it is still unprovided with means for isolating infectious cases. For many years the district has enjoyed a comparative immunity from these. During the quinquennium 1893-1897 the total number of cases of scarlet fever was 15, of diphtheria 2, of enteric fever 6, and of continued fever 3. Such immunity may not however continue; more, it argues the necessity for greater care in the future as there must necessarily be a large number of susceptible persons—few having been rendered insusceptible by previous attack. The large number of persons, from all parts of the country, who visit Saltburn in the season materially increases the risk of importation of infection into the district, and at the same time considerably increases the risk of dissemination.

I am, Gentlemen,

Yours obediently,

W. W. STAINTHORPE.

Saltburn-by-the-Sea,
Feby 1st, 1898.

To the Chairman and Members
OF THE
Skelton and Brotton Urban District Council.

GENTLEMEN,

The number of cases of each of the infectious diseases reported during the year compared with the same in the previous year is shown in the following table :—

		Scarlet Fever.	Diphtheria	Membranous Croup.	Enteric Fever.	Puerperal Fever.	Erysipelas.
Skelton Sub-District	1897	19	4	1	3	0	9
	1896	12	6	4	3	0	9
Brotton Sub-District	1897	15	3	0	10	1	3
	1896	20	5	0	4	0	7

The 24 cases of scarlet fever occurred in 14 houses, as follows :—

13 at Lingdale in 8 houses

6 at Skelton in 3 "

5 at Brotton in 3 "

The seven cases of diphtheria (4 less than in 1896) were distributed as follows :—

Brotton, 3, in separate houses

North Skelton, 3, ditto

Moorsholm, 1

one ended fatally.

The single case of membranous croup occurred in Lingdale.

Ten of the thirteen cases of enteric fever occurred in Brotton, three being in one house. I reported to the Council that the ordinary closets which lined both sides of the narrow back street at the rear of two houses where cases of this fever existed were probably connected with their occurrence. The stand-pipe from which the occupiers of the cottages obtain their water is in this back street—water being carried in open pails from the stand-pipe along the back street to the respective houses. The Agent of the property was communicated with: steps are being taken by him to substitute pan closets for the ordinary closets.

The births numbered 432 (227 males, 205 females), being 30 more than in 1896; birth rate 32·57. The number of deaths was 211 (120 males, 96 females), 27 more than in 1896; death rate 14·36. In the Skelton sub-district the birth and death rates were respectively 32·81 and 13·39; in the Brotton 32·09 and 21·16. The deaths from infectious diseases (including diarrhoea) were at the rate of 2·71 per 1000 of the population. In connection with the higher death rate in the Brotton sub-district than in the Skelton it is to be noted that the reverse was the case in the previous year. The proportion of deaths (to the total number) in children under five years of age was less in the Brotton sub-district being 41·7 compared with 56·7 in the Skelton, but the proportion as compared with the population was slightly greater, being 8·8 per 1000 in the Brotton, 7·4 per 1000 in the Skelton. The number of deaths of persons in the Brotton between the ages of 25 and 65 and from 65 upwards was much greater compared with the population than in the Skelton.

One hundred and five deaths occurred among children under five years of age. The proportion of deaths in children under one year of age to each 100 births was 19·44.

As in the past, inspections of the various parts of the District have from time to time been made, these often being from house to house. Matters noted requiring attention were brought under the notice of the Council either in my own monthly reports or by entry in the Inspector's report book. The number and nature of the nuisances abated and defects remedied during the year are shown in Table D.

The scavenging on the whole has been carried out in a satisfactory manner.

Nothing in connection with the slaughter-houses, bake-houses, and common lodging-houses, which were inspected, was noted calling for special remark.

The question of the provision of water to certain cottages at the higher part of Lingdale which has been under the consideration of the Council for some time is not yet settled. The Cleveland Water Company which has the monopoly of supply in the District is absolved by its Acts from supplying water except by gravitation. Some 15 years ago the then owners of the property made arrangements with the Company for the erection of a tank at such a level as permitted of water flowing into it when the pressure was sufficient, as during the night, &c., water being drawn thence by the occupier through an ordinary tap. In this way the cottages which could not be supplied by gravitation received their supply. For this concession the Company charged a rate of 12/- per cottage per annum, the usual charge being 8/8. For a long period many of these cottages were unoccupied, recently a number have again become occupied. The present owners state that in consequence of reduced pressure in the pipes owing to the Company now supplying a District which is not within its area, several of the cottages which previously received water by gravitation can not now be supplied in this way. The owners expressed their willingness to pay the Company's charges (8/8 plus the extra charge 3/4) if the Company would guarantee a supply; this they refused to do. Subsequently some of the owners agreed to pay the 12/- without the guarantee of supply but as the whole of them would not do so the Company cut off the water altogether. A resident in Lingdale states that at one time he lived in a cottage in Davison Street (one of those now without water) and that he then obtained his water from a tap in the back kitchen. It may be well to state here that at a recent meeting of the Council I reported that complaint had been made to me that houses at the higher part of Margrove Park were often without water from 5 or 6 o'clock in the morning till midnight. The Agent of the property was communicated with and replying says:—"I should like to point out that there never has been any scarcity until this year and as our highest point is 150 feet below the filter beds the Water Company ought to have no difficulty in keeping a constant supply." Whatever may be the legal or moral aspect of the question as between the owners and the Water Company there can be no doubt that a supply of water to the cottages referred to is urgently required.

I am, gentlemen,

Saltburn-by-the-Sea,

Feb. 4th, 1898.

Yours obediently,

W. W. STAINTHORPE.

TABLE E.
PARTICULARS OF THE VARIOUS WATER SUPPLIES IN THE GUISBOROUGH UNION.

District.	Situation.	Whether vested or not in the Local Authority.	Water from gathering grounds or from springs.	Water from deep wells.	Chemical analysis shows the water to be	Remarks.
Guisborough Rural ...	1 Ainthorpe (2 springs)	Yes	(1) No. (2) No		Good	
"	2 Castleton	Yes	(1) No. (2) No		Good	
"	3 Commandale 1	No	(1) No. (2) No		Good	
"	4 " 2	No	(1) No. (2) See remarks		Good	
"	5 Cowber				Good	4 (2) Possible, not probable, risk : Agent of property has been requested to take steps to avoid the possible risk.
"	6 Danby End (3 springs)	Yes	(1) No. (2) No		Good	5 Without proper supply. Steps nearly completed for provision of water.
"	7 Easington	Yes	(1) No. (2) Under investigation	No	Good	7 Shows no sign of sewage contamination.
"	8 Hutton	No	(1) No. (2) No	No	Good	
"	9 Lackenby	No			Good	
"	10 Lazenby (2 wells)	Yes			Both of good quality	11—261 houses supplied by the Cleveland Water Company.
"	11 Marske (see remarks)				Good	
"	12 Marske (fountain in spout wynde)	Yes	(1) No. (2) Under investigation		Good	13 All the houses supplied by the Cleveland Water Company.
"	13 New Marske (see remarks)	See remarks	(1) No. (2) No		Good	14 The water is from springs on private land; the pipes and stands are vested in Local Authority.
"	14 Newton					15 Supplied by the Stockton & Middlesbro' Water Board. Analysis of water not yet made.
"	15 North Lackenby	No	See remarks			
"	16 Pinchingthorpe	No		No	Good	
"	17 Upgleatham (2 springs)	Yes	(1) No. (2) No		Good	
"	18 Westerdale (2 springs)	Yes	(1) No. (2) No		Good	
"	19 " (1 spring)	Yes	(1) No. (2) Possible		Suspicious	19 Water rarely used for domestic purposes. Notice ordered to be affixed stating that the water is not fit for domestic use.
Guisborough Urban ...	20 Wilton	No	(1) No. (2) No		Good	21 Most of the houses in the town are supplied with water by a private company. The waters from the public pumps were found to be unfit for use; notice to this effect has been affixed to these.
"	21 Guisborough	See remarks			Good	
"	22 Fountain in Bow Street	Yes	(1) No. (2) No		Good	
"	23 Barnaby Moor	Yes	(1) No. (2) No		Good	
"	24 Iron Cottages	No		Under investigation	Good	
"	25 Chaloner Pit Cottages	No	(1) No. (2) No		Good	25 Steps being taken to carry supply direct from spring, instead of allowing the water first to flow into reservoir.
Kirkleatham ...	26 Coatham and Warrenby	No	See remarks		Good	26 Supplied by the Cleveland Water Company.
"	27 Kirkleatham (1) reservoir	No	(1) No. (2) No		Good	
"	28 (2) pump	No			Good	
"	29 Yearby (1) spring	No			Good	
"	30 (2) pump	No			The amount of chlorides and of organic matter is somewhat large but nitrates and nitrates are absent.	30 Enquiries being made as to the depth of this well and as to the possibility of contamination from manure placed on garden land near.
Loftus ...	31 Dunsdale	No	(1) No. (2) No		Good	
"	32 Loftus	See remarks				32—412 houses in Loftus, 297 in Skinningrove, and 144 in Carlinhow are supplied by the Cleveland Water Company.
"	33 Skinningrove					
"	34 Carlinhow					
"	35 Fountain, High Street	Yes	(1) No. (2) No		Good	
"	36 " Cleveland Street	Yes	(1) No. (2) No		Good	
"	37 " South Loftus	Yes	(1) No. (2) No		Good	
"	38 Gaskill spring	Yes	(1) No. (2) No		Good	
"	39 Liverton Mines	No	(1) No. (2) No		Good	
"	40 Liverton Village	No	(1) No. (2) See remark		Good	
Redcar ...	41 Foulbyke	No	(1) No. (2) No		Good	40 There is the possibility—remote—of manure being washed into the tank (in a field) through which the water flows in its course to the stand pipes. It would be well to raise the top of the tank so as to avoid this possibility.
"	42 Town	Yes	(1) No. (2) See remark		Contains excessive amount of vegetable matter and a quantity of suspended matter.	42 On Dec. 6th, in reporting upon the water supply to the town I stated that (1st) the water supply consists of spring water mixed with surface water—the mixed waters passing direct to the town unfiltered; (2nd) the water is open to contamination at various points by earthy and vegetable matter; and (3rd), and most important, the water is open to pollution by specific matter from manure which may be placed on the land.
Saltburn...	43 Town	No	See remarks			43 The whole of the houses in the Saltburn District with the exception of two at Marske Mill are supplied by the Cleveland Water Company.
Skelton & Brotton ...	44		See remarks			44—2045 houses in the Skelton & Brotton District are supplied with water by the Cleveland Water Company.
"	45 Charlton's Cottages	No	(1) No. (2) See remark		Good	45 The water is conveyed by sanitary pipes in part and by iron pipes in part from a spring to the cottages. To avoid the possibility of contamination—which is very remote—it is intended to replace the sanitary pipes by iron pipes.
"	46 Skelton					All from springs, the water passing into tanks thence to the outlets. Three of the tanks are in fields, the fourth in a garden. If the tanks and their covers are in perfect condition there is no risk of contamination; I purpose having them examined.
"	47 Fountain in High Street	Yes	(1) No. (2) See remark		Good	47
"	48 " Green Road	Yes	(1) No. (2) See remark		Good	48
"	49 " Cross Green	Yes	(1) No. (2) See remark		Good	49
"	50 " nr Bridge House	Yes	(1) No. (2) See remark		Good	50
"	51 Moorsom	Yes				

